



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

648.4709

Job Sheet 172733



Part No: 648.4709

Job Qty: 1 ea

Part Name: SWA10A Overhaul



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/21/18

Job Tracking No:

Due Date: 4/27/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG OM_OOPM-SWA10A Rev 3 (648.4709) IPP Rev A 18.01.25 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		4/27/18	0.00	0.00	Start Up Small Fab-4		MCC
110	Small Fab	1 pcs		4/27/18	0.00	0.00	Small Fab-4		MCC DAS
120	QC	1 pcs		4/27/18	0.00	0.00	QC5		38
121	DC	1 pcs		4/27/18	0.00	0.00	DC		DAS 3-89
130	Packaging	1 pcs		4/27/18	0.00	0.00	Packaging3-1	FB102	6 APR 24 2018
140	QC21-FG	1 Ea		4/27/18	0.00	0.00	QC21		DAS 21 3-89

Part Op 110 - Pick bag and tag.

Descriptions: 121 - Supply owner's & overhaul procedures manual

APR 24 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
188-FPSS-1032-1/2	Set Screw	1 Ea (1 ea)	90-Start up Operation	5037670
188-FPSS-1032-3/8	Set Screw	1 Ea (1 ea)	90-Start up Operation	5037669
188-FPSS-1032-5/8	Set Screw	1 Ea (1 ea)	90-Start up Operation	5037083
188-FSCS-1032-5/8	Wire Clamp Screw	4 Ea (4 ea)	90-Start up Operation	5031242
600.1319	Up Decal	1 Ea (1 ea)	90-Start up Operation	5036704
EL314-SJTOW	3 Wire	6 ft (6 ea)	90-Start up Operation	5029542
SWA10A-1100	Upper DU Bearing	1 Ea (1 ea)	90-Start up Operation	5060979
SWA10A-1200	Lower DU Bearing	1 Ea (1 ea)	90-Start up Operation	5036190
SWA10A-1300	Roller Thrust Bearing	1 Ea (1 ea)	90-Start up Operation	5036727
SWA10A-1400	Circlip	1 Ea (1 ea)	90-Start up Operation	5036191
SWA10A-400	Thrust Washer	1 Ea (1 ea)	90-Start up Operation	5049938
SWA6A-1900	Female Spade Terminal - 1/4"	12 Ea (12 ea)	90-Start up Operation	5017243
SWA6A-2000	1/8" Female Spade Connector	4 Ea (4 ea)	90-Start up Operation	5019410

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	188-FPSS-1032-1/2	1	100	0
	188-FPSS-1032-3/8	1	100	0
	188-FPSS-1032-5/8	1	199	0
	188-FSCS-1032-5/8	4	184	0
	600.1319	1	250	0
	EL314-SJTOW	6	247	0
	SWA10A-1100	1	6	0

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		Skid-tub Machini Thermoform Large		AGAINST DEPARTMENT/PROCESS Water Jet ☐ Eng. Coord. ☐ Engineering ☐ Quality ☐ Other ☐																																																																																	
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SWA10A-1200	1	10	0
SWA10A-1300	1	10	0
SWA10A-1400	1	10	0
SWA10A-400	1	0	0
SWA6A-1900	12	88	0
SWA6A-2000	4	100	0

Part Specifications

Specifications could not be found.

Plex 2/21/18 2:20 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

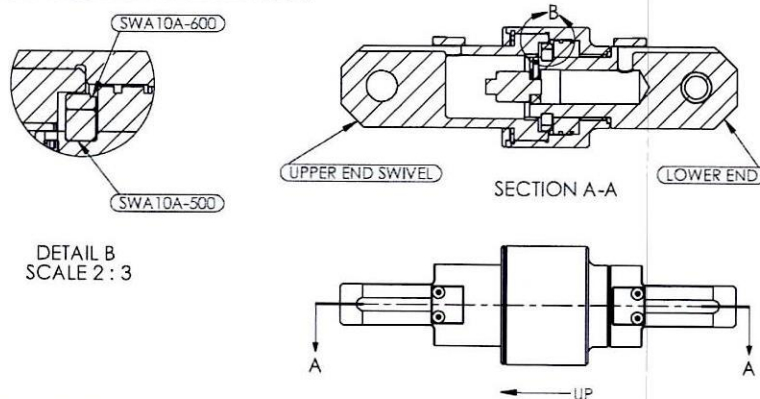
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

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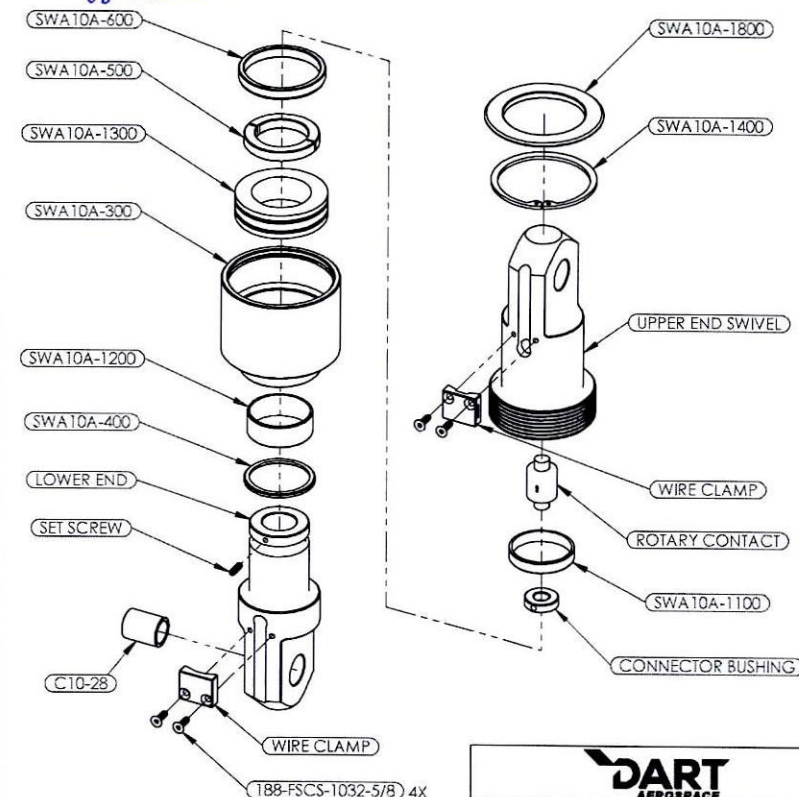
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WORK ORDER
NO. 172733 MLS
18-02-21

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2/QTY.	3/QTY.	4/QTY.	5/QTY.	6/QTY.	B/O	Part #	Description	Material	B/O INFORMATION OR SPECIFICATIONS
1	1	1	-	-		SWA10A-100	LOWER END	SS 17-4 H1150/H1075	
-	-	-	1	1		SWA10A-110	LOWER END	SS 17-4 H1150/H1075	
1	1	1	-	-		SWA10A-200	UPPER END SWIVEL	SS 17-4 H1150/H1075	
-	-	-	1	1		SWA10A-210	UPPER END SWIVEL	SS 17-4 H1150/H1075	
1	1	1	1	1		SWA10A-300	BEARING HOUSING	SS 17-4 H1150/H1075	
1	1	1	1	1		SWA10A-400	THRUST WASHER	AL-SFONZE 65D	
1	1	1	-	-		SWA10A-500	SEMI-PIVOT	SS 17-4 H1150/H1075	
1	1	1	1	1		SWA10A-600	COLLAR	SS 17-4 H1150/H1075	
2	2	-	-	-		SWA10A-700	WIRE CLAMP	6051-76	
-	-	2	2	2		SWA10A-700A	WIRE CLAMP	6051-76	
1	-	-	-	-		SWA6A-800A	CONNECTOR BUSHING		
-	1	1	-	-		SWA6A-800B	CONNECTOR BUSHING		
-	-	-	1	-		SWA6A-800C	CONNECTOR BUSHING		
1	-	-	-	-	B/O	SWA6A-900A	ROTARY CONTACT	MERCOTAC #230	
-	1	-	-	-	B/O	SWA6A-900B	ROTARY CONTACT	MERCOTAC #330	
-	-	1	-	-	B/O	SWA6A-900C	ROTARY CONTACT	MERCOTAC #430	
-	-	-	1	-	B/O	SWA6A-900D	ROTARY CONTACT	MERCOTAC #630	
-	-	-	-	1	B/O	SWA6A-900E	ROTARY CONTACT	MERCOTAC #830	
1	1	1	1	1		SWA10A-1100	UPPER DU BEARING	BRONZE/CHLITE TUBING	
1	1	1	1	1	B/O	SWA10A-1200	LOWER DU BEARING	(KAMAN MB5020DU)	
1	1	1	1	1	B/O	SWA10A-1300	ROLLER THRUST BEARING	(KAMAN B1210TN)	
1	1	1	1	1	B/O	SWA10A-1400	CIRCLIP	(KAMAN N5000 350 SFP)	
1	1	1	1	1		SWA10A-1800	COVER	SS 17-4 H1150/H1075	
4	6	4	6	12	B/O	SWA6A-1900	1/4 FEMALE SPADE CONNECTOR	(MCMaster-CARR #69525K16)	
-	-	4	4	4	B/O	SWA6A-2000	1/8 FEMALE SPADE CONNECTOR	(MCMaster-CARR #69525K14)	
4	4	4	4	4	B/O	188-FSCS-1032-5/8	FLAT SOCKET CAP SCREW	SS, 10-32 x 5/8 (MCMaster-CARR #92210A303)	
-	-	-	-	1	B/O	188-FFSS-1032-3/8	SET SCREW	SS, 10-32 x 3/8 (MCMaster-CARR #94355A333)	
-	-	-	-	1	B/O	188-FFSS-1032-1/2	SET SCREW	SS, 10-32 x 1/2 (MCMaster-CARR #94355A337)	
1	1	1	-	-	B/O	188-FFSS-1032-5/8	SET SCREW	SS, 10-32 x 5/8 (MCMaster-CARR #92311A430)	
1	1	1	1	1	B/O	EL-PLUG-F	FEMALE PLUG	PE High Density (MCMaster-CARR #7216KA)	
1	1	1	1	1	B/O	EL-PLUG-M	MALE PLUG	(MCMaster-CARR #7216KA)	
1	1	-	-	-	B/O	EL314A-TOW	3 WIRE	6 FT. (TEXCAN #EL314A-TOW 3/14)	
-	-	1	-	-	B/O	EL414-ARTIC	4 WIRE	6 FT. (TRUCK & AUTO SUPPLY #EL414-ARTIC 4/14)	
-	-	-	1	-	B/O	EL616-ARTIC	6 WIRE	6 FT. (TRUCK & AUTO SUPPLY #EL616-ARTIC)	
-	-	-	-	1	B/O	30806	8 WIRE	6 FT. (POLAR WIRE #30806)	
1	1	1	1	1	B/O	400 1319	UP DECAL		
1	1	1	1	1		C10-28	BUSHING	SAE 600 BRONZE 3/4 D SHAFT X 1 O.D. X 1 1/4 (MCMaster-CARR #6381K193)	

- NOTES:
- FOR REBUILD ONLY.
 - ALL ASSEMBLY TO BE DONE IN ACCORDANCE WITH SWA SWIVEL MANUAL.
 - 8 WIRE STRIP OUTER JACKET & DOUBLE LAYER HEAT SHRINK.



REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
A		REPLACED ID DECAL 400.1316 WITH LASER ETCH	11/16/2012	JAG	
2	13-0148	UPDATED TO NEW DRAFTING STANDARDS, ADDED ENGRAVE NOTES AND DETAILS. SWA6A-1900 CHD QTY: 4 ASSY -4 WAS 8 IS 4. ASSY -6 WAS 12 IS 6. ASSY -8 WAS 16 IS 12. SWA6A-2000 ADDED P/N: ASSY -4 QTY 4. ASSY -6 QTY 4. ASSY -8 QTY 4. 188-FFSS-1032-5/8 CHD QTY 8 ASSY -4 WAS 16 IS 8. ASSY -6 WAS 16 IS 8. ASSY -8 WAS 16 IS 8. EL314-TOW, EL414-ARTIC, EL616-ARTIC, EL616-ARTIC CHD QTY 2 WAS 6 IS 1. ADDED #11 TO B/O INFO, ADDED REBUILD ONLY NOTE	6/16/2015	DPD	JAG
3	17-0090	ADDED NOTE 3, SHEET 1, CHD P/N WAS EL616-ARTIC (TRUCK & AUTO SUPPLY) IS #30806 (POLAR WIRE), ADDED P/N C10-28.	5/31/2017	RJC	JAG

DART AEROSPACE		REV 3
TITLE SWA10A SWIVEL		
DWG NO. SWA10A		
MATL HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES XXX ± .005 FRACTIONS ± 1/8 XX ± .01 ANGLES ± 3° X ± .1 SURFACES ± 125	
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 ± .05 OR .015H	
CHECKED: DD 04/18/2017	2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
OPPS APPR: AA 05/05/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
QA APPR: JL 05/10/2017	USED ON MODEL	
APPROVED: JAG 06/02/2017		
SCALE 1:4	DATE 11/14/2012	SHEET 1 OF 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

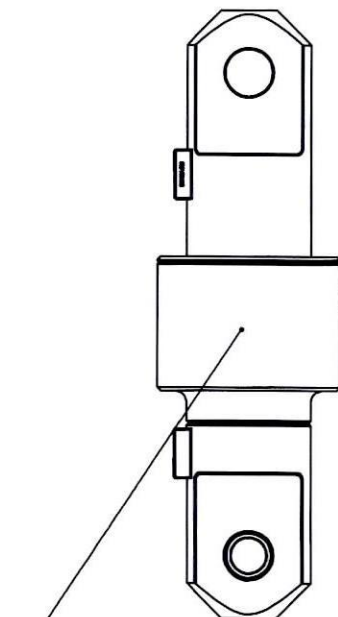
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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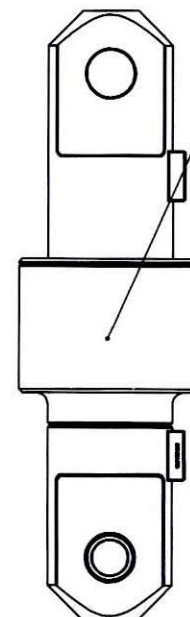
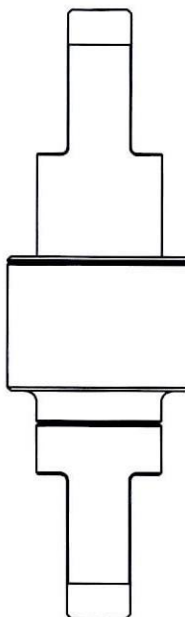
REVISIONS			
REV	ECR	DESCRIPTION	DATE INITIAL APPROVED



ENGRAVE P/N, S/N, SWL



LASER ENGRAVE DART LOGO



DART AEROSPACE	
TITLE SWA10A SWIVEL	
DWG NO. SWA10A	REV 3
MAT'L HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: DD 04/18/2017	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: AA 05/05/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: JL 05/10/2017	USED ON MODEL
APPROVED: JAG 06/02/2017	
SCALE 1:4	DATE 11/14/2012 SHEET 2 OF 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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